Logic Modeling: Enhancing Project Planning and Performance

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Presented by:
Michelle Mandolia, U.S. EPA
mandolia.michelle@epa.gov
202-566-2198
Douglas Eller, Grace Hill Settlement House

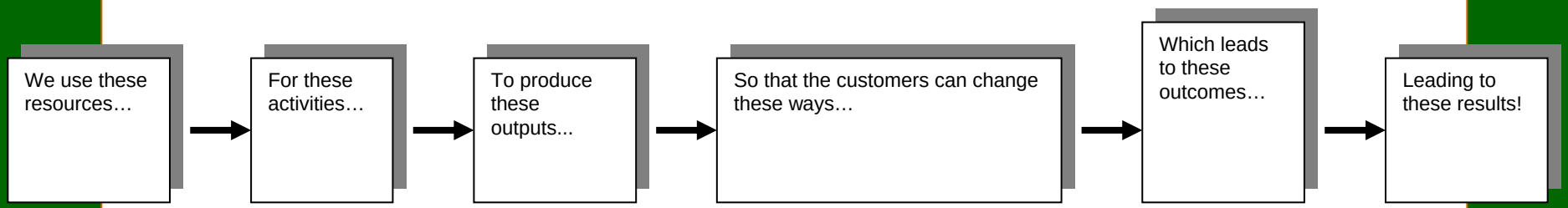
Session Goals

- For participants to leave with an understanding of:
  - What a logic model is
  - How to develop a logic model
  - Ways to use a logic model in project planning, measurement, and communication

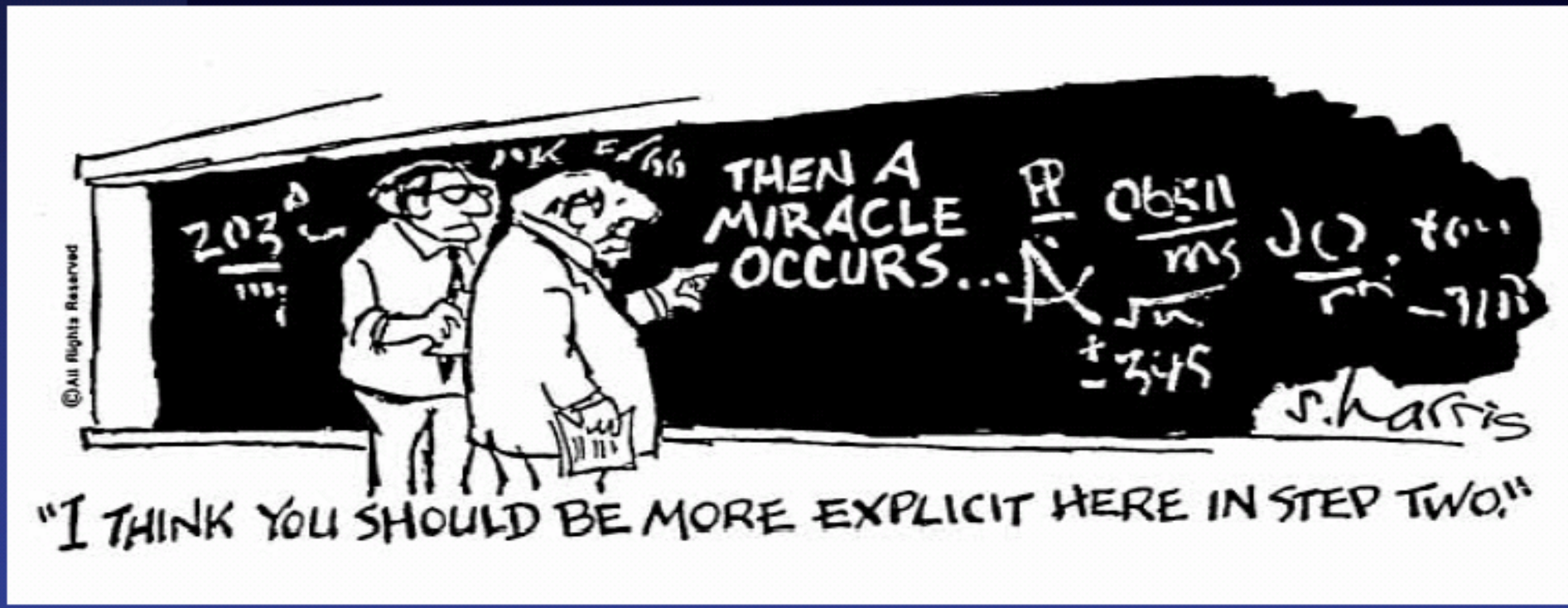
What is a logic model?

A diagram and text that describes and illustrates the causal relationships among program elements and the problem to be solved.

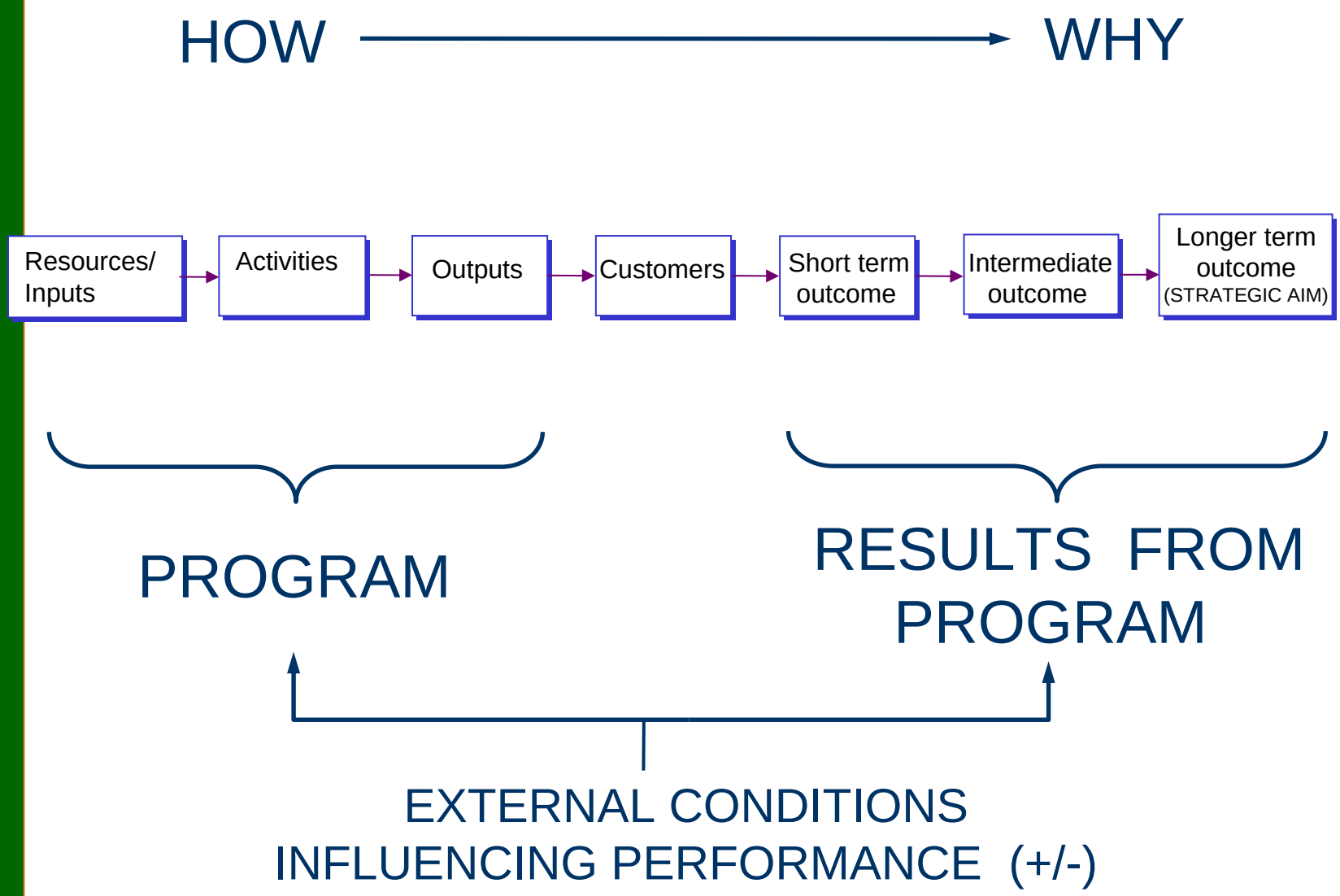
- Synthesizes key activities intended to achieve program goals
- Links inputs to activities and to expected outputs and outcomes



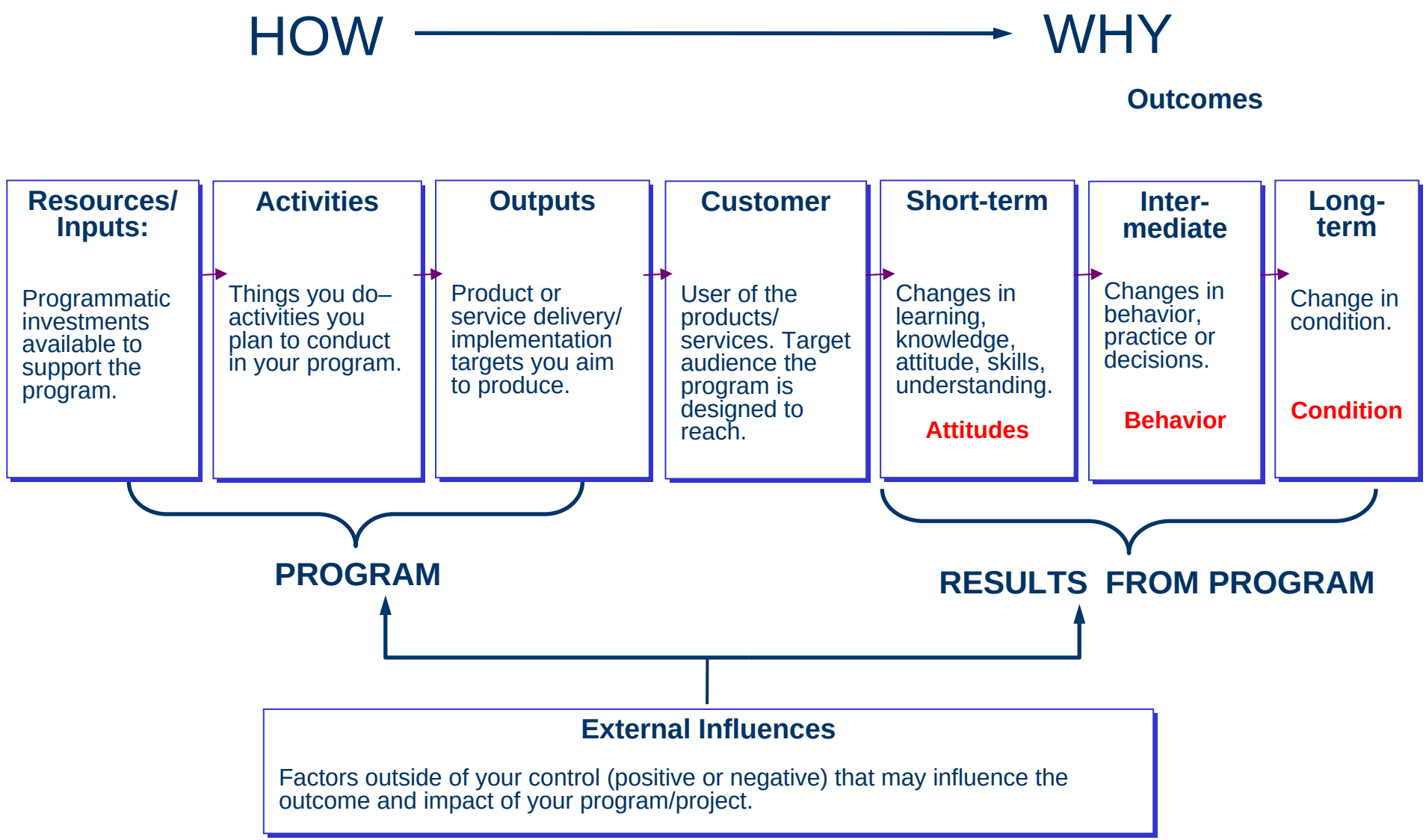
The Logic Model



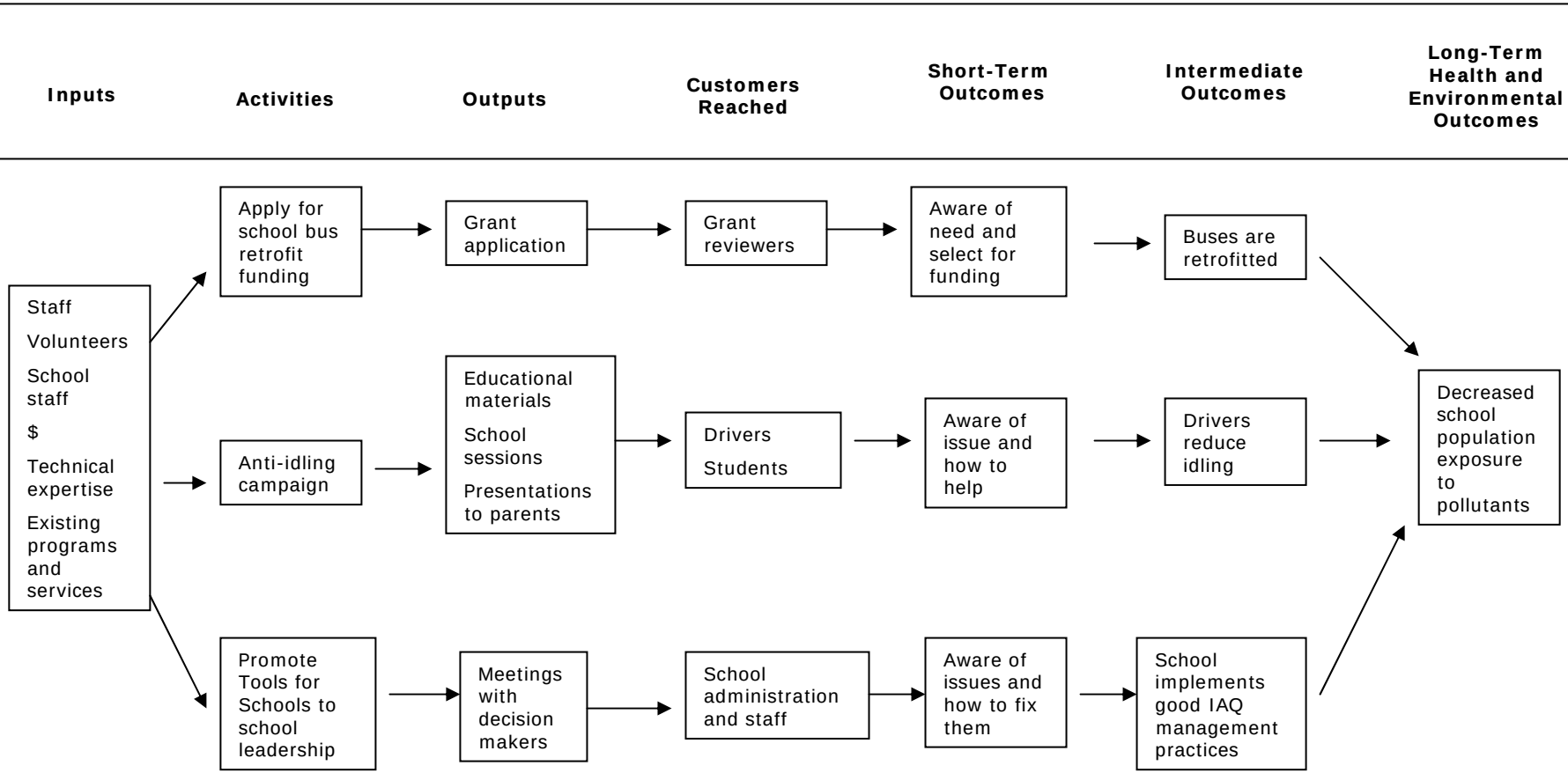
Logic Model


HOW
WHY
Resources/ Inputs
Activities
Outputs
Customers
Short term outcome
Intermediate outcome
Longer term outcome (STRATEGIC AIM)
PROGRAM
RESULTS FROM PROGRAM
EXTERNAL CONDITIONS INFLUENCING PERFORMANCE (+/-)

Elements of the Logic Model



Example Logic Model: Reducing exposure to pollutants at a school



External influences: the grant review panels decision whether or not to fund, retrofit grant money available, parent receptivity to anti-idling recommendations, student population turnover, staff turnover, school management receptivity to change.

Types of Program Elements
Neighborhood Recycling/Cleanup Example

Example	Type of Program Element
1. Plan and hold a neighborhood meeting to discuss resident concerns regarding litter in the neighborhood and a nearby park.	1. Activity
2. Create flyers to post in the local park and to share with neighbors.	2. Activity
3. Park users.	3. Customers Reached
4. “Keep the park clean” flyers to post in neighborhood park.	4. Output
5. Neighbors and park users are aware of importance of keeping the neighborhood and park clean.	5. Short-Term Outcome
6. Residents and park users use waste and recycle bins instead of littering.	6. Intermediate Outcome
7. The neighborhood and park are litter-free.	7. Long-Term Outcome

What are Logic Models Used For?

- Planning tool
- Communication tool
- Implementation tool
- Measurement design
- Evaluation design

Benefits of Logic Modeling

- Illustrates the logic or theory of the program or project.
- Focuses attention on the most important connections between actions and results.
- Builds a common understanding.
- Helps you “manage for results.”
- Helps identify “gaps” in the logic of a program.

Steps in the Logic Model Process

1. Establish a team or work group.
2. Define the problem and context for the program or project and determine what aspect of your program/project you will logic model.
3. Define the elements of the program in a table.
4. Verify the logic table with stakeholders.
5. Develop a diagram and text describing logical relationships.
6. Verify the Logic Model with stakeholders.

Step 3. Define the elements of the program or project in a table

WHAT and WHY

- HOW -			WHO	Outcomes		
Resources/ Inputs	Activities	Outputs	Customers reached	Short-term (change in attitude)	Intermediate (Change in behavior)	Long-term (change in condition)

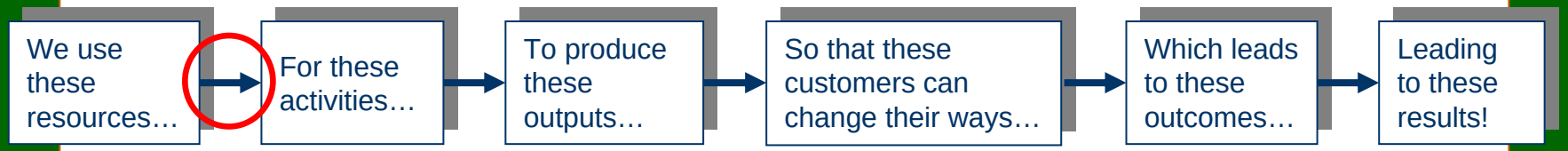
External Influences:

Step 3. Define the elements of the program or project in a table

HOW			WHO	WHAT AND WHY		
Resources/ Inputs	Activities	Outputs	Customers Reached	Short-Term Outcomes	Intermediate Outcomes	Long-Term Outcomes
Neighborhood residents City trash disposal services City recycling services Donations from concerned residents	Organize concerned residents Plan and hold a neighborhood meeting to discuss resident concerns regarding litter in the neighborhood and a nearby park Spread word and recruit additional residents Meet and plan campaign and activities Spread word of concerns to all residents	Meetings Individual conversations with neighbors Project plan with designated responsibilities	Neighborhood residents	Neighbors and park users are aware of importance of keeping the neighborhood and park clean Residents and park users feel responsible for picking up after themselves and picking up after others	Residents and park users use waste and recycle bins instead of littering	The neighborhood and park are litter-free
	Create flyers or signs to post in the local park and to share with neighbors	"Keep the park clean" flyers or signs to post in neighborhood park	Park users			
External influences: Personal values of neighborhood residents and park users, flexibility of city services to accommodate new pickup sites.						

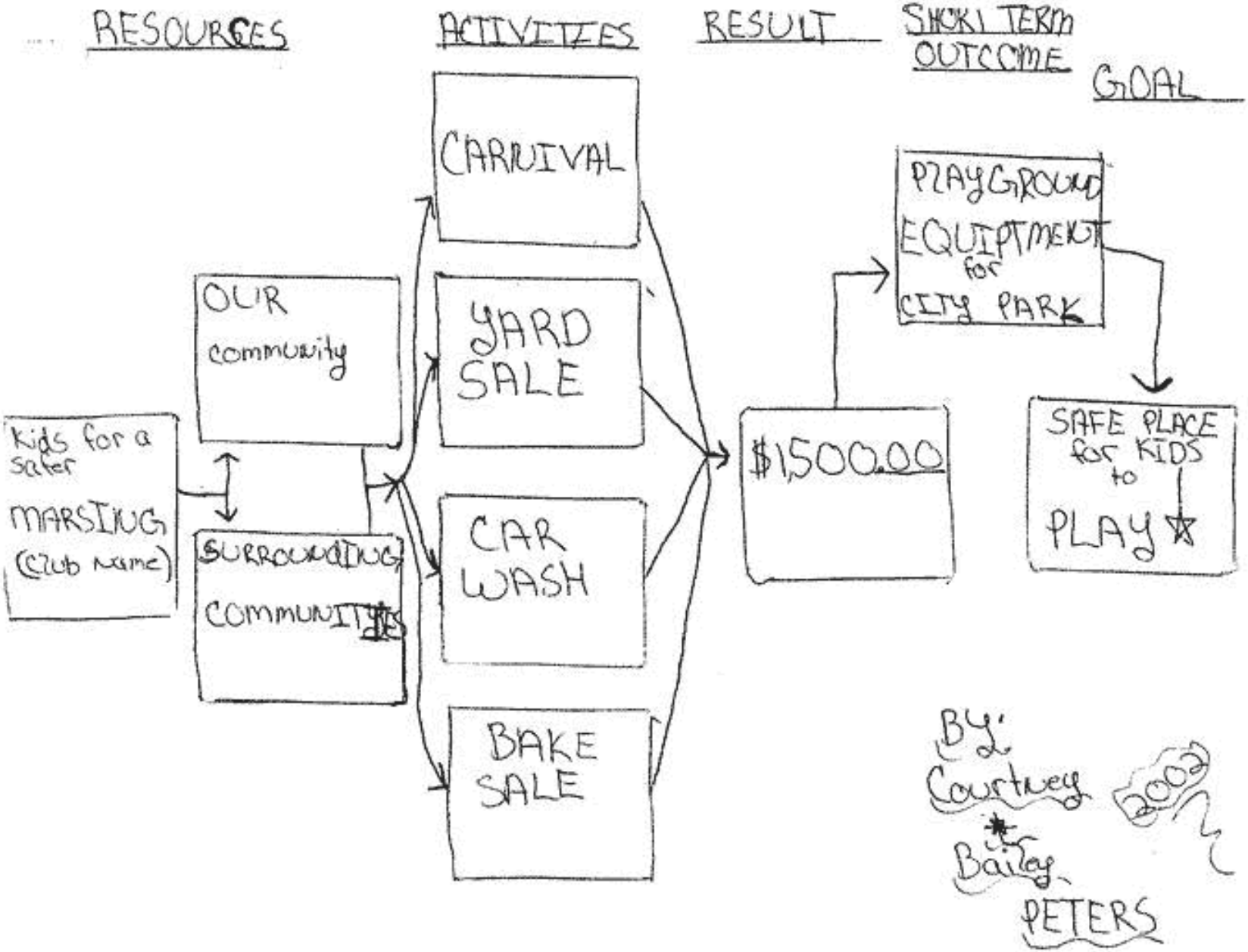
Step 5. Develop a diagram and text describing logical relationships

- Draw arrows to indicate/link the causal relationships between the logic model elements.



- Work from both directions (right-to-left and left-to-right):
  - Ask "*How-Why*" questions:
    - Start with Outcomes and ask "How?"
    - Start at Activities and ask "Why?"
  - Ask "*If-Then*" questions:
    - Start at Activities and move along to Outcomes asking, "*If this, then that*?"

Courtney and Bailey Peter's Model: A Safe Place to Play



Program Logic Model

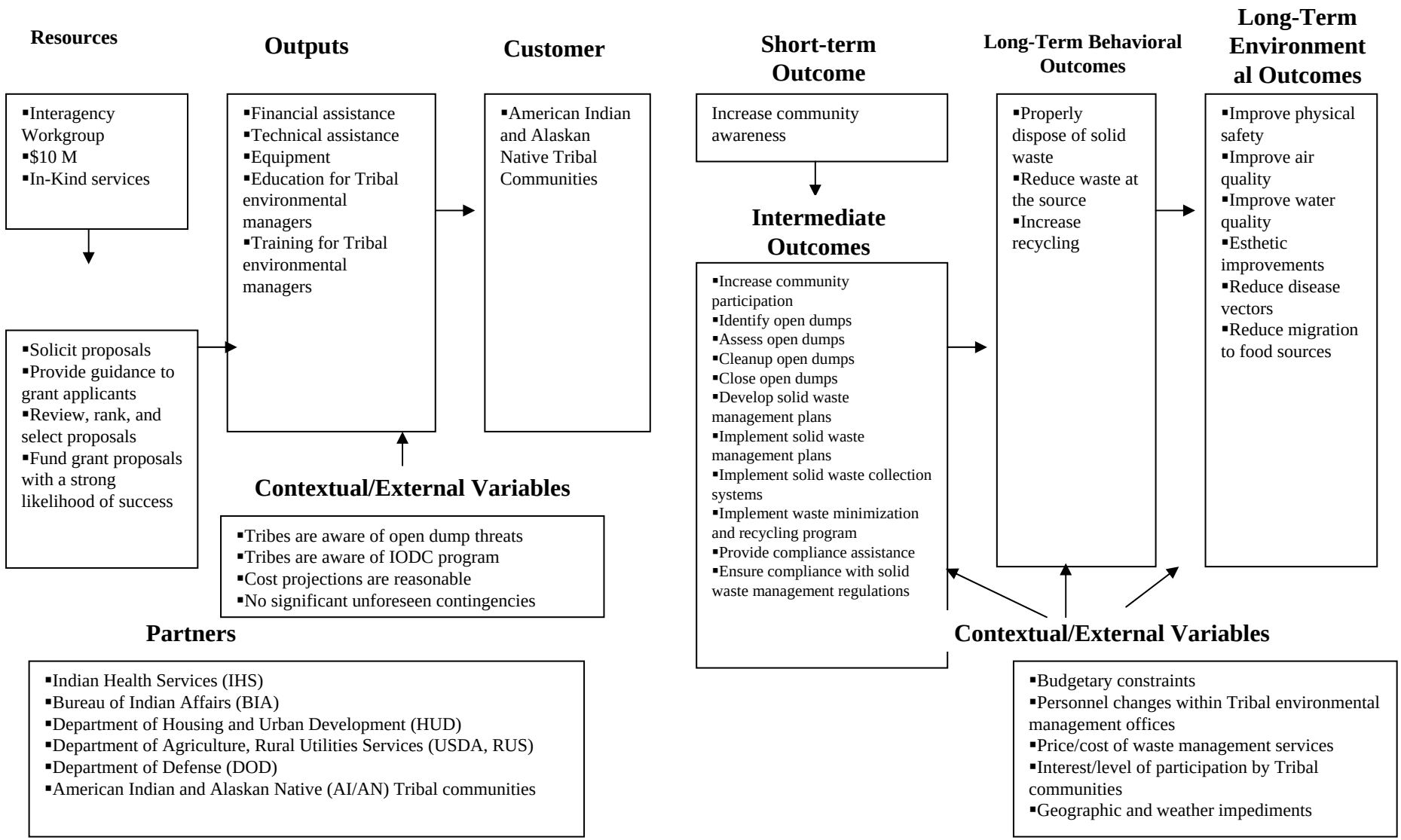
Your Library Community Partnership for Breast Cancer Prevention

Program Goal: To provide women with instruction, resources and assistance in finding affordable and convenient access to information, services and programs so that they can successfully participate in prevention and early detection of breast cancer.

RESOURCES	ACTIVITIES	OUTPUTS	OUTCOME	GOAL
Your Library Local Public Health Dept Local Hospital Library Local chapter of the American Cancer Society	Conduct community classes about breast cancer prevention Enhance library web sites about resources (local and national) regarding breast cancer screening and detection Educate public librarian reference staff in the use of health information resources to answer questions about breast cancer.	Three breast cancer awareness classes offered to community Total number of women attending the classes Use of library website resources regarding health One in-service instructional session for public librarians about answering health information questions Total number of library staff attending the in-service	Women who attend the community classes and/or use the website for information will be more empowered to take steps to prevent breast cancer	Women who attend the class and access the website will take steps to reduce their risk of breast cancer

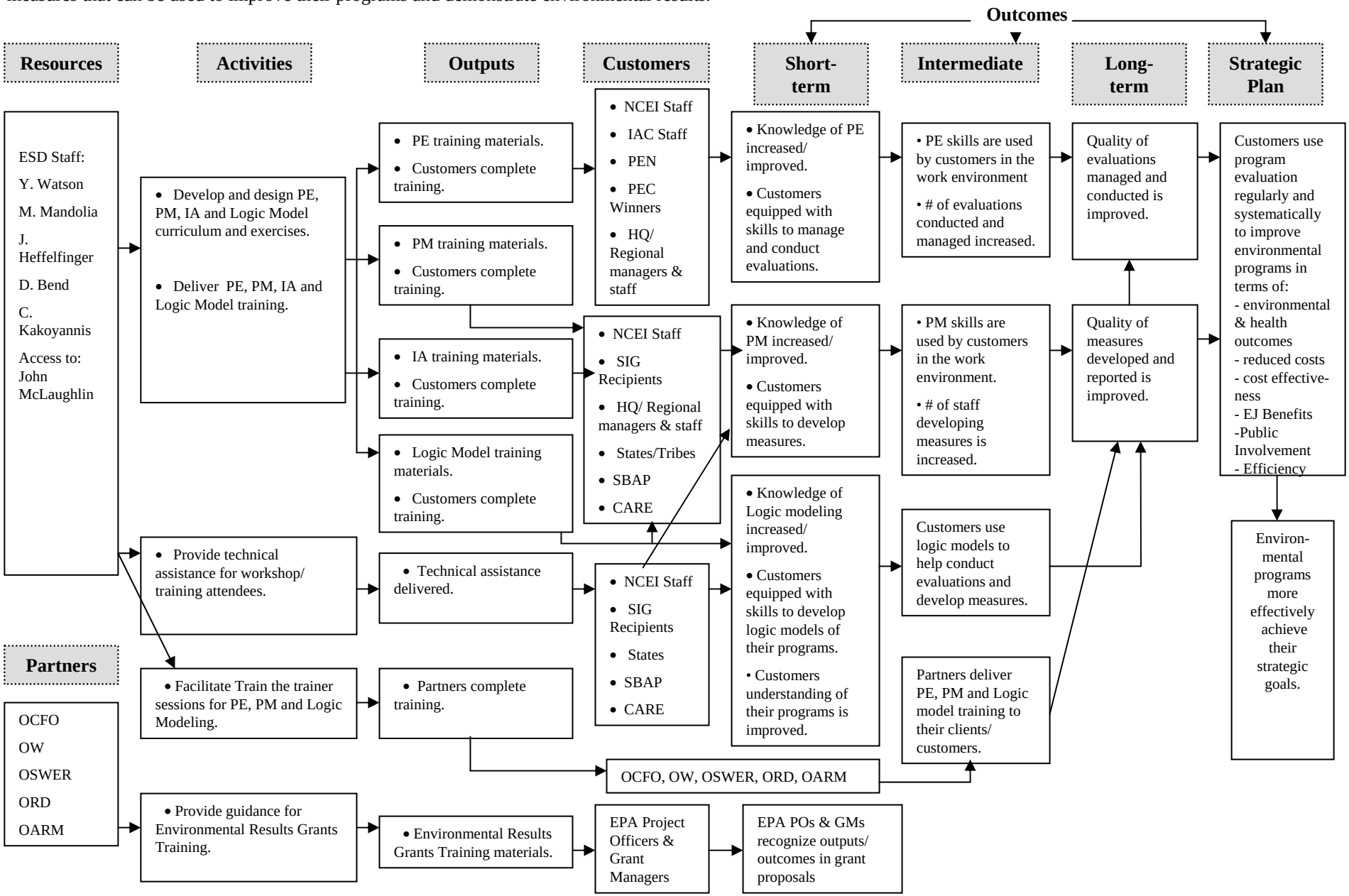
National Network of Libraries of Medicine web site, from Guide 5: Define How a Program Will Work-The Logic Model, **http://nnlm.gov/outreach/community/logicmodel.html**

Interagency Tribal Open Dump Clean Up Project



ESD TRAINING LOGIC MODEL

ESD Training Goal: To provide training to enable our EPA partners to more effectively conduct and manage program evaluations and analyses and develop performance measures that can be used to improve their programs and demonstrate environmental results.



Logic Modeling Exercise

Brief application of logic modeling

Case Study Logic Model

Goals: to inform residents and visitors of the health risks of eating contaminated fish caught in local lakes.

Activities

- Gather information on cooking and cleaning fish
- Develop post-able information on how to clean fish
- Post information near known fishing areas and in license establishments
- Develop educational materials on contaminates and how to clean fish
- Contact community government representatives to share concerns and recommend ordinances/legislation to reduce contaminates
- Distribute educational materials to local neighborhood associations and fishing clubs

Resources & Partners

Human Resources (staff, volunteers, state partners and local partners)

Funds and in-kind contributions

Existing educational materials

Outputs

Signs

Educational materials

Meetings with government representatives

Education sessions

Customer

Residents and visitors

Local fishing groups

License establishments

Neighborhood associations

Local officials

Short Term Outcomes

Awareness raised regarding fish contamination issues

Awareness raised regarding how to properly clean contaminated fish and consumption guidelines

Representatives aware of community members' concerns regarding local fish contamination and consumption

Intermediate Outcomes

Residents and visitors properly clean contaminated fish and follow consumption guidelines

Representatives take action to decrease contamination of local fish

Long Term Outcomes

Decreased toxin levels (e.g., PCBs, mercury, dioxins, DDT, chlordane) in residents and visitors

What is Performance Measurement?

The ongoing monitoring and reporting of program progress and accomplishments, using pre-selected performance measures.

- Performance measure – a metric used to gauge program or project performance.
- Indicators – measures, usually quantitative, that provide information on program performance and evidence of a change in the “state or condition” in the system.

What is Program Evaluation?

While program evaluation can take many forms, it is generally described as an individual, systematic study that uses objective measurement and analysis to answer specific questions about *how well a program is working to achieve its outcomes and why*.

Relationship between Measurement and Evaluation

- Performance measurement data provides information needed to conduct the evaluation and assess program performance.
- Lack of performance measurement data is a major obstacle to conducting an evaluation.

PERFORMANCE MANAGEMENT TOOLS

PERFORMANCE MANAGEMENT

Performance management includes activities to ensure that goals are consistently being met in an effective and efficient manner. **Performance management tools include logic models, performance measurement and program evaluation.**

Logic Model

Tool/framework that helps identify the program/project resources, activities, outputs customers, and outcomes.

Performance Measurement

Helps you understand ***what*** level of performance is achieved by the program/project.

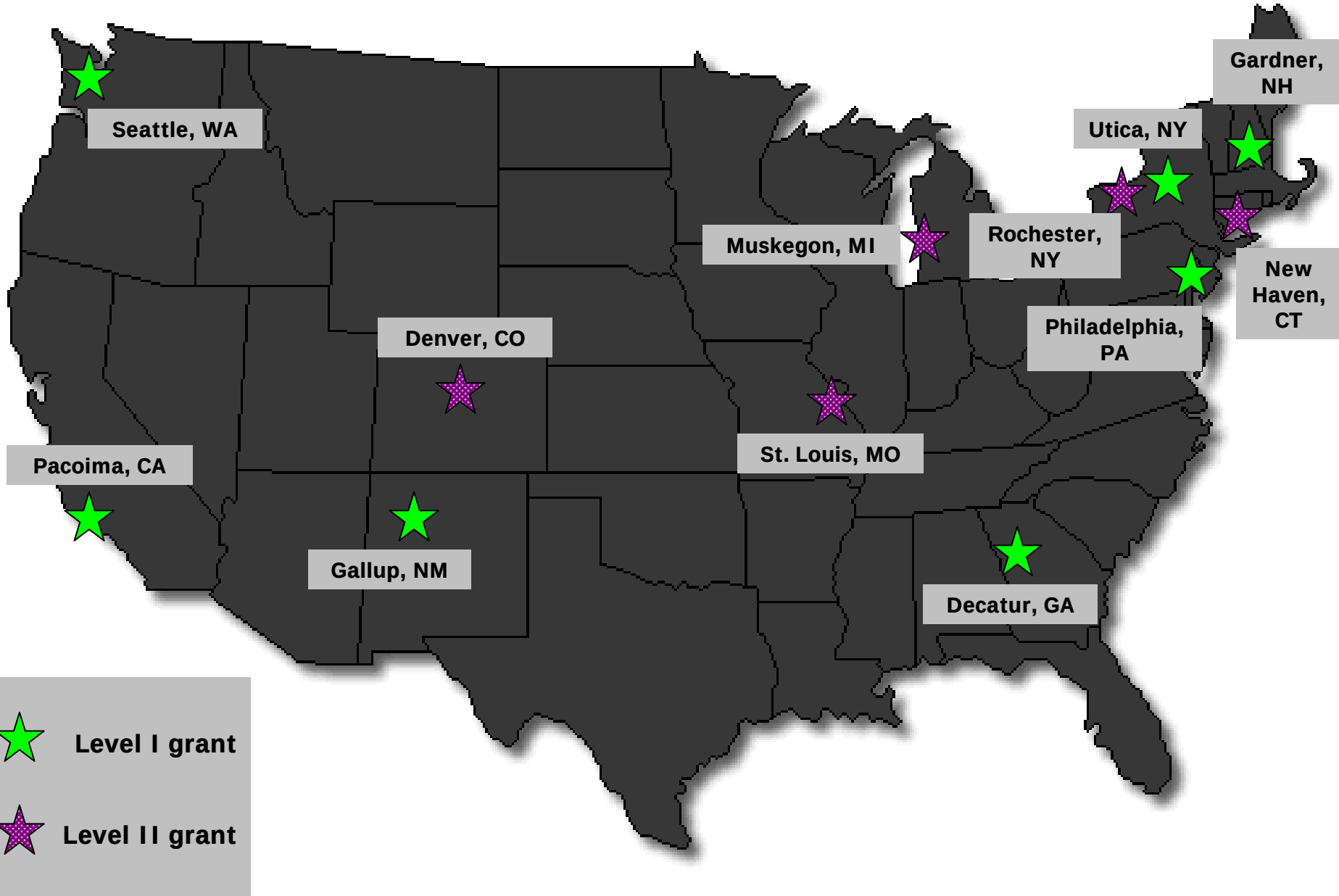
Program Evaluation

Helps you understand and explain ***why*** you're seeing the program/project results.

What is CARE?

- CARE is a community-based, community-driven program created to build partnerships to help communities understand and reduce toxic risks from all sources.
  - EPA cooperative agreement grant program entering its second year
  - 12 grants awarded in 2005, in process of awarding the 2006 grants
  - 2 levels of funding (Level I up to $100K, Level II up to $300K)
  - CARE Website: www.epa.gov/care

2005 CARE Communities



CARE Performance Measurement and Evaluation Plan

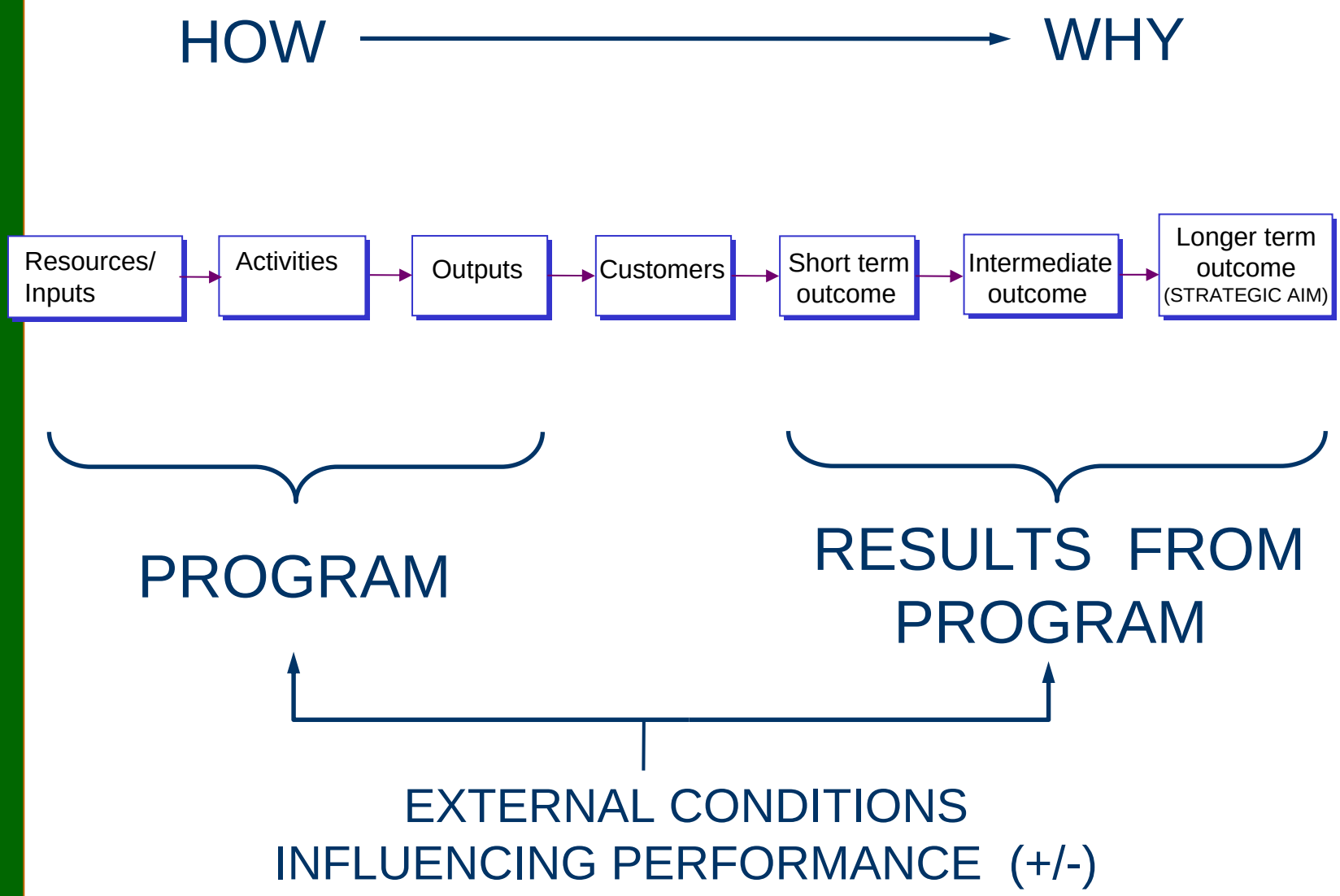
- Grantee measurement and evaluation
- CARE Program national level measurement
- Third-party evaluation

Purpose of CARE measurement

- To help the CARE team with overall management of the program
  - Assess whether program goals are being met
  - Gauge performance across projects, across years
  - Identify areas where help may be needed
  - Learning and program improvement
- To demonstrate value to decision-makers, stakeholders, and the public
  - Garner support and grow the program
- To maintain and grow the program

Building on Your Logic Model – The Bridge to Performance Measurement

Logic Model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The logic model as a tool for performance measure development

- Lays out all aspects of the project
- Helps identify the most critical elements and linkages
- Helps distinguish outputs and outcomes

Performance Measurement Questions

- What are they?
  - Questions designed to assess progress/ accomplishments of various aspects of a program/project.
  - Performance measurement questions ask/tell you ***what*** your program is doing.

Performance Questions Across the Performance Spectrum

PROGRAM ELEMENTS:	Resources (We use these)	Activities/ Outputs (To do these things)	Target Customer (For these people)	Short term Outcome (To change them in these ways)	Intermediate Outcome (So they can do these things)	Long-Term Outcome (Which leads to these outcomes)
PERFORMANCE QUESTIONS:	▪Do we have enough, ▪The right, ▪The necessary level, ▪The consistency?	▪Are we doing things the way we say we should? ▪Are we producing products and services at the levels anticipated? ▪According to anticipated quality indicators measures?	▪Are we reaching the customers targeted? ▪Are we reaching the anticipated numbers? ▪Are they satisfied?	▪Did the customer's attitude, knowledge, skills or understanding change?	▪Are customers using the change as expected? With what results? ▪Are customers served changing in the expected direction and level? ▪If so, what did we (others) do to cause the change?	▪What changes in condition have occurred? ▪Did the program achieve its goals and objectives?
EXTERNAL INFLUENCES:	What factors might influence my program's success?					

Types of Measures

Category	Definition	Examples
Resources/ Inputs	Resources consumed by the organization.	Amount of funds, # of FTE, materials, equipment, supplies (etc.).
Activities	The work performed that directly produces the core products and services.	# of training classes offered as designed; Hours of technical assistance training for staff.
Outputs	Products and services provided as a direct result of program activities.	# of technical assistance requests responded to; # of compliance workbooks developed/delivered.
Customer Reached	Measure of target population receiving outputs.	% of target population trained; # of target population receiving technical assistance.
Customer Satisfaction	Measure of satisfaction with outputs.	% of customers dissatisfied with training; % of customers “very satisfied” with assistance received.
Outcomes	Accomplishment of program goals and objectives (short-term and intermediate outcomes, long-term outcomes--impacts).	% increase in industry’s understanding of regulatory recycling exclusion; # of sectors that adopt regulatory recycling exclusion; % increase in materials recycled.

Work Quality Measures

Category	Definition	Examples
Efficiency	Measure that relates outputs to costs.	Cost per workbook produced; cost per inspection conducted.
Productivity	Measure of the rate of production per some specific unit of resource (e.g., staff or employee). The focus is on labor productivity.	Number of enforcement cases investigated per inspector.
Cost Effectiveness	Measure that relates outcomes to costs.	Cost per pounds of pollutants reduced; cost per mile of beach cleaned.
Service Quality	Measure of the quality of products and services produced.	Percent of technical assistance requests responded to within one week.

Examples of Performance Measures

Example	Type of Measure
1. Percent of neighborhood residents reached in-person through neighborhood meetings or house visits.	1. Customers Reached
2. Reductions in park litter, measured by comparing pieces of trash counted and collected in weekly neighborhood organized pickup versus baseline amount.	2. Long-Term Outcome
3. “Keep the park clean” flyer made to post in neighborhood park.	3. Output
4. Number of park users who are aware of clean-up campaign as judged through informal surveys at the park.	4. Customers Reached
5. Increase in bottles and cans recycled in park and neighborhood bins.	5. Intermediate Outcome

Why use logic modeling?

Logic models are an effective tool for project planning and performance management

- Planning tool
- Communication tool
- Implementation tool
- Measurement design
- Evaluation design